

**REGULATIONS FOR THE DEGREE OF
BACHELOR OF PHARMACY IN CHINESE MEDICINE (PART-TIME)
(BPharm[ChinMed])**

These regulations apply to students admitted to the first year of study in the academic years 2000-2001 and 2001-2002.

(See also General Regulations)

The degree of Bachelor of Pharmacy in Chinese Medicine is awarded for the satisfactory completion, on a part-time basis, of a prescribed course of study and training in pharmaceuticals of Chinese medicine. The degree programme is offered by the School of Chinese Medicine.

PHCM 1 To be eligible for admission to the degree of Bachelor of Pharmacy in Chinese Medicine, a candidate shall

- (a) meet University Entrance Requirements; or
 - (b) hold the Diploma in Pharmaceutical Management in Chinese Medicine awarded by the School of Professional and Continuing Education.
-

PHCM 2 Applicants who hold qualifications under PHCM 1(b) may be exempted from part of the degree curriculum where such exempted courses are considered to constitute common modules in the Diploma in Pharmaceutical Management in Chinese Medicine and the Bachelor of Pharmacy in Chinese Medicine.

PHCM 3 To be eligible for the award of the degree of Bachelor of Pharmacy in Chinese Medicine, a candidate shall

- (a) comply with the General Regulations; and
 - (b) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.
-

PHCM 4

- (a) The curriculum shall comprise components of theoretical studies, practicum and a research project.
 - (b) The curriculum shall extend over not less than four and one half years (1.5 years for those with exemption under PHCM 2 above) and shall include examinations at the conclusion of each module.
-

PHCM 5 To complete the curriculum a candidate shall

- (a) follow the courses of instruction presented in the syllabus;
 - (b) satisfy the examiners in the examinations and coursework assessments;
 - (c) submit a report embodying the main findings and results of the research project at a level deemed satisfactory by the examiners; and
 - (d) complete the requisite period of practicum.
-

PHCM 6 The prescribed sequence of course progression shall normally be followed except for candidates who hold qualification under PHCM 1(b) above.

PHCM 7

- (a) Examinations shall be held at the conclusion of each module; the examination of candidates who are permitted to represent themselves for re-examination or supplementary examination shall be held at the end of the academic year or in the next subsequent examination for those modules.
 - (b) A candidate must satisfy the examiners in the examinations and coursework assessments for all the prescribed modules in the curriculum to be eligible for the award of the degree of Bachelor of Pharmacy in Chinese Medicine.
-

PHCM 8

- (a) The form of assessment for all prescribed modules in the degree curriculum may be undertaken by examination and coursework; the examination shall constitute not less than 50% of the total mark of each module.
 - (b) The practicum shall be assessed based on the candidate's work reports and performance during the placement period.
-

PHCM 9

- (a) a candidate who has failed to satisfy the examiners in not more than two-third of the prescribed course load in any academic year may be permitted to present himself for re-examination in accordance with PHCM 7(a) above.
 - (b) A candidate who has failed to satisfy the examiners in more than two-third of the prescribed course load in any academic year may be required to (i) discontinue his/her studies; or (ii) repeat the academic year.
 - (c) A candidate who fails to satisfy the examiners in a re-examination shall be required to (i) repeat the modules; or (ii) repeat the academic year.
-

PHCM 10A candidate who is unable because of illness to present for examination may apply for permission to present for supplementary examination in accordance with PHCM 7(a) above. Any such application shall be made within two weeks of the first day of the candidate's absence from any examination. Any such supplementary examination shall constitute a first attempt in the module in which a supplementary examination is granted.

PHCM 11

- (a) The Chinese title of the degree of Bachelor of Pharmacy in Chinese Medicine shall be “中藥藥劑學學士”.
 - (b) The examinations and assessments of the degree curriculum shall be conducted in Chinese.
 - (c) The regulations and syllabus of the degree may be published in Chinese.
-

PHCM 12The degree of BPharm in Chin Med may be awarded with Honours but a candidate shall not be eligible for Honours if he has been required to retake any modules.

SYLLABUSES FOR THE DEGREE OF BACHELOR OF PHARMACY IN CHINESE MEDICINE

(To be read in conjunction with Regulations for BPharm in Chin Med)

The BPharm in Chin Med curriculum shall consist of theoretical modules (160 credits) and a research project (22 credits). Candidates are required to complete a compulsory period of practicum corresponding to a full-time duration of two and one half months. The practical may be taken in blocks during any designated time assigned for such purpose within the candidate's period of registration.

Candidates are required to follow the prescribed sequence of course progression unless with prior permission obtained from the Deputy Director (Education).

Year I

Foundations of Traditional Chinese Medicine (4 credits)
Pharmaceutics of Chinese medicine (8 credits)
Medicinal botany (14 credits)
Pharmacology of Chinese medicine (12 credits)
Toxicology of Chinese medicine (4 credits)

Year II

Pharmaceutical chemistry of Chinese medicine (14 credits)
Pharmaceutical analysis of Chinese medicine (14 credits)
Processing of Chinese materia medica (5 credits)
Medical prescriptions in Chinese medicine (7 credits)

Year III

Pharmaceutical informatics of Chinese medicine (4 credits)
Pharmaceutical formulation design in Chinese medicine (13 credits)
Authentication of Chinese materia medica (20 credits)
Legal aspects of pharmaceutics in the PRC (2 credits)

Year IV

Medicinal plant cultivation in Chinese medicine (5 credits)
Preservation of Chinese materia medica (4 credits)
Pharmaceutical advertising and marketing in Chinese medicine (8 credits)
Medical statistics and research methodology (6 credits)
Proprietary Chinese medicines (4 credits)
Medicinal resources in Chinese medicine (6 credits)
Pharmaceutical management in Chinese medicine (6 credits)

Year V (half academic year only)

Practicum
Research project

PHCM1001. Foundations of Traditional Chinese Medicine

Explication of the philosophical foundations of TCM. Principles of physiology, pathology and preventive medicine from TCM perspective.

PHCM1002. Pharmaceutics of Chinese medicine

History and development of the discipline. Natural habitat and harvesting of medicinal materials and their relation to pharmaceutical efficacy. Purposes and methods of processing crude medicines. Pharmaceutical properties of Chinese medicines (four channels; five tastes; lifting, lowering, floating, sinking actions; categorisation according to channels; toxicity). Purposes and principles of medicinal compounding (seven emotional factors). Pharmaceutical usage and contraindications. Dosage determination and methods of decocting. Synopsis of 200 types of commonly-used Chinese medicines.

PHCM1003. Medicinal botany

Plant morphology and anatomy: cells, tissues, organs. Plant taxonomy: primitive plants (algae, fungi, lichens), higher plants (characteristics and life histories of worts, mosses, ferns, gymnosperms, angiosperms). Plant ecology and geographical distribution: environmental factors, ecotypes, plant communities with particular reference to Chinese vegetation.

PHCM1004. Pharmacology of Chinese medicine

History and development of the discipline. Pharmaceutical properties of Chinese herbal medicines. Drug absorption, distribution, transformation and elimination. General principles of drug action. Research methodology and current state of research in Chinese herbal medicines. Pharmacology of 70 representative types of Chinese herbal medicines (categorised according to classifications in the Compendium of Chinese Materia Medica).

PHCM1005. Toxicology of Chinese medicine

Principles of crude medicine preparation from toxic and potent medicinal materials. Elimination of toxicity. Main groups of toxic and potent Chinese medicines: diaphoretics (e.g. *Asarum heterotropoides* or *sieboldii*); purgatives (e.g. *Croton tiglium*); medicines for dispelling wind-evil (e.g. *Trypterygium wilfordii*); medicines for activating blood circulation to dissipate blood stasis (e.g. *Hirudo medicinalis*); anti-tussive, anti-asthmatics and expectorants (e.g. *Datura metel*); medicines for calming the liver to inhibit wind-evil (e.g. *Buthus marthensii*) and anti-tumour medicines (e.g. *Mylabris phalerata* or *circhorii*).

PHCM1006. Legal aspects of pharmaceutics in the PRC

Drug regulatory authority and framework of the PRC. Law and subsidiary legislations on pharmaceutics: The Law on Regulation of Pharmaceutical Products of the PRC and its Implementation Guidelines; Good Manufacturing practice (GMP); Guidelines on Review and Approval of New Drugs; The Law on Regulation of Pharmaceutical Product Importation; etc. Laws and subsidiary legislations on pharmaceutical product manufacturing and sales. Pharmaceutical standards.

PHCM2001. Pharmaceutical chemistry of Chinese medicine

Organic chemistry. Spectroscopic analysis. Methods of extraction, separation, and identification of active principles from natural products: biological alkaloids; glycosides; anthrone derivatives; coumarins; flavonoids; cardiac glycosides; saponins; terpenes and volatile oils; research on active principles of Chinese medicines.

PHCM2002. Pharmaceutical analysis of Chinese medicinal formulations

Analytical methods. Analysis of chemical constituents of Chinese medicinal formulations. Qualitative and quantitative determinations. Types of formulations and their quality control. Setting of quality standards for Chinese medicinal formulations.

PHCM2003. Processing of Chinese materia medica

Processing of crude medicines: purposes, clinical efficacy, changes to medicinal properties. Processing aids. Quality specifications and storage requirements of processed Chinese medicines. Material selection and processing of raw materials for oral compounding. Five main categories of processing methods. Specific examples in the processing of Chinese materia medica.

PHCM2004. Medical prescriptions in Chinese medicine

Introduction to prescription compounding and the clinical usage of prescriptions. Common prescriptions: composition, efficacy and clinical usage. Prescription selection in accordance with the principle of differential diagnosis in TCM.

PHCM2005. Medicinal plant cultivation in Chinese medicine

Soil science, plant physiology and ecology. Reproduction and propagation. Modern methods of plant cultivation in Chinese medicine. Field management. Vermin and pest control. Harvesting and processing. Quality cultivation of 45 types of commonly-used Chinese medicines; root and root-stem groups; bark and wood-stem groups; leaf and grass groups; flower group; fruit and seed groups; algal and fungal groups.

PHCM3001. Pharmaceutical formulation design in Chinese medicine

Theory and techniques of formulation design in Chinese medicine. Organisation of the Chinese medicine dispensary. Formulation types: decoctions and other compound preparations. Stability of formulations. Biopharmaceutics. Changes in pharmaceutical properties due to interaction effects of compounding. Improvements in formulation design.

PHCM3002. Authentication of Chinese materia medica

History and development of the discipline. Major chemical constituents of Chinese medicines. Factors influencing the quality of Chinese medicines. Processing of crude medicines. Authentication of Chinese medicines. Exploration and use of Chinese medicinal resources. Pharmacognosy: root and root-stem groups of Chinese medicine (40 representative types); wood-stem group (5 representative types); bark group (7 representative types); leaf group (2 representative types); flower group (8 representative types); fruit and seed groups (12 representative types); grass group (11 representative types); algal and fungal group (4 representative types); resin group (4 representative types); animal group (9 representative types); mineral group (3 representative types).

PHCM3003. Preservation of Chinese materia medica

Importance of preservation science in Chinese medicine. External factors contributing to the deterioration of Chinese medicinal materials. Mold formation and its retardation. Vermin and pest control. Loss of essential oils, decoloration and their preventions. Storage and preservation of medicinal raw materials. Processed medicines: storage and preservation. Proprietary Chinese medicinal products: storage and preservation.

PHCM3004. Pharmaceutical advertising and marketing in Chinese medicine

Advertising techniques and their effectiveness in the Chinese medicine trade. The preparation, use and management of advertisements. Consumer psychology. Ethical standards in advertising. The Law on Pharmaceutical Product Advertising of the PRC. Marketing concepts. Market research, marketing strategy, the marketing mix of product, price, promotion and distribution. New product development process. Pharmaceutical market in Chinese medicine.

PHCM3005. Pharmaceutical informatics of Chinese medicine

Survey of Chinese medical and pharmaceutical literatures. Types of indexing tools and search strategies. Methods of literature evaluation. Information sources. Chinese medical and pharmaceutical CD-ROM databases.

PHCM4001. Medical statistics and research methodology

Frequency distribution, measures of central tendency and dispersion. Normal distribution and its application. Estimation of parameter mean and hypothesis testing. Analysis of variance. Presentation of statistical data. Chi-square test. Experimental design.

PHCM4002. Proprietary Chinese medicines

Pre-manufacturing phase: quality control and processing of crude medicines. Developmental phase – pharmaceutical research and formulation design. Formulation types and dosage forms. Pharmaceutical technology. Methods of analysis and reference standards. Bioavailability. Stability of formulations. Packaging. Clinical trials. Pharmaceutical management aspects of proprietary Chinese medicines.

PHCM4003. Medicinal resources in Chinese medicine

Characteristics and system of classification of medicinal resources in Chinese medicine. Medicinal resources and natural factors (geographical, climatic, environmental, etc.). Distribution of medicinal resources. Natural factors and their influence on formation of active principles of Chinese materia medica. Socio-economic factors, plant cultivation technology and their influence on medicinal resources. Survey, exploration, protection and regeneration of medicinal resources in Chinese medicine. Specific examples in the efficient use of medicinal resources in Chinese medicine.

PHCM4004. Pharmaceutical management in Chinese medicine

Integration of modern management practices and principles of Total Quality Management (TQM) with requirements specified in GMP, GSP, ISO 19000, GB/T 19000.

PHCM4005. Practicum

Period of supervised training in various aspects of Chinese medicine pharmaceuticals. Placement will be arranged in Chinese medicine pharmacies of TCM hospitals, Chinese medicine manufacturing plants, pharmaceutical analysis laboratories and pharmaceutical research centres.

PHCM4006. Research project

A small scale research on a chosen topic of interest in Chinese medicine pharmaceuticals. The project can be an empirical study, a literature review or a field / case study.